



**STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY**

Richland Field Office

3100 Port of Benton Blvd., Richland, WA 99354 • 509-372-7950

December 1, 2022

22-NWP-166

Brian T. Vance, Manager
Richland Operations Office
United States Department of Energy
PO Box 550, MSIN: H5-30
Richland, Washington 99352

John Eschenberg, President and Project Manager
Central Plateau Cleanup Company LLC
PO Box 1464, MSIN: A7-01
Richland, Washington 99352

Re: Proposed Class 3 Permit Modification, 8C.2021.3D to the *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste* (Site-wide Permit), Part III, Operating Unit Group 11, Integrated Disposal Facility (IDF), WA7890008967

References: See page 5

Dear Brian T. Vance and John Eschenberg:

This letter transmits the Department of Ecology's (Ecology) proposed Class 3 Permit Modification 8C.2021.3D to the IDF.

The Permittees are the United States Department of Energy (USDOE) as owner/operator and Central Plateau Cleanup Company LLC (CPCCo) as co-operator. The Permittees initially proposed the Class 3 Permit Modification C3-IDF-2021-01 on May 18, 2021 (Reference 1).

This proposed permit modification will allow the Permittees to operate two Leachate Collection System (LCS) Dangerous Waste Management Units (DWMUs) as miscellaneous units to store leachate collected from the IDF disposal cells in accordance with Washington Administrative Code (WAC) 173-303-680. Each unit includes ancillary equipment required for the transfer of leachate from the disposal cells.

The Permittees held a 60-day public comment period regarding the proposed Class 3 Permit Modification request for the IDF Permit from May 24 through July 23, 2021. The Permittees held a virtual public meeting on GoToWebinar at 5:30 p.m. on June 24, 2021. Seven members of the public attended, and no public comments were submitted. Ecology reviewed the proposed Class 3 Permit Modification submittal and determined it was incomplete per WAC 173-303-840(1)(b) on July 27, 2021 (Reference 2).

The Permittees provided additional information to Ecology on October 1, 2021 (Reference 3), and Ecology determined that the proposed Class 3 permit modification submittal was complete (Reference 4).

Ecology received 17 public comment submittals during the comment period. After reviewing the public comments, and performing a technical review (Reference 5), Ecology made the following modifications in preparation for the draft permit. The proposed modification will incorporate new and modified information to the following IDF Permit files:

- Ecology updated Unit-Specific Permit Conditions.
- Ecology updated Chapter 1.0, "Part A Form."
- Ecology updated Chapter 3.0, "Waste Analysis Plan."
- Ecology updated Chapter 4.0, "Process Information."
- Ecology updated Chapter 6.0, "Procedures to Prevent Hazards."
- Ecology added and updated Chapter 8.0, "Personnel Training."
- Ecology updated Chapter 11.0, "Closure."
- Ecology added and updated Appendix 4A1, "Phase 1 Critical Systems Design Report" as described in the following paragraphs explaining the liner system upgrade.
- Ecology added and updated Appendix 4A3, "Critical Systems Design Drawings" as described in the following paragraphs explaining the liner system upgrade.
- Ecology updated Appendix 4C, "Facility Response Action Plan."
- Ecology added and updated Appendix 4D, "Construction Specifications (C-1), RPP-18489, Rev. 1" as described in the following paragraphs explaining the liner system upgrade.
- Ecology added Appendix C7, "Leachate Monitoring Plan." (new)
- Ecology added Appendix C7A, "Sampling and Analysis Plan for IDF Leachate." (new)
- Ecology added Appendix C8, "Sub-Surface Liquids Monitoring and Operations Plan." (new)
- Ecology added Appendix 11.A, "Visual Sampling Plan Report Documentation." (new)

During this time, Ecology drafted and discussed with the Permittees Unit-Specific Permit Conditions to support the operation of the LCS DWMUs at the IDF. Both parties agreed to revise Section 4.3.11 (Spill Response) in Chapter 4.0 for clarity and consistency with draft Permit Condition III.11.F.4.c. Additionally, Ecology deleted the fourth sentence in Section 4CB.1 (Leakage Response Action Plan for Leachate Collection Units) in Appendix 4C, which reads, "The surface impoundment requirements are only applicable to the tank liners" for the above reason.

Since the original construction of the Leachate Collection Unit (LCU) liners, the Permittees proposed to upgrade the liner system to replace the original XR-5, a proprietary material, with Linear Low-Density Polyethylene (LLDPE) material for both primary and secondary liners. The new liner material, LLDPE, would be welded to factory fabricated High Density Polyethylene piping and flatstock penetration assemblies to provide welded connections for the LLDPE liner, creating a tight and durable liner pipe penetration, and eliminating the use of bolted connections with gaskets to seal the penetration. Also, a geosynthetic clay liner was proposed to replace the original geotextile for cushioning under the secondary liner to provide additional leak protection.

On July 25, 2022, Ecology received a Temporary Authorization (TA) request from the Permittees detailing a limited scope of installation and testing of the upgraded liners (Reference 6). Also included in the TA request was the additional information to support Ecology's decision to include the proposed liner upgrade into this Class 3 permit modification.

On August 4, 2022, Ecology responded to the TA request and approved the work requested by the Permittees (Reference 7). This proposed liner upgrade required updates Sections 4.3.2 (Design & Installation Requirements), 4.3.4 (Leachate Collection Unit), and 4.3.10.2 (Waste Compatibility) in Chapter 4.0, Unit-Specific Permit Conditions, and the following three Appendices, which were previously outside the scope for this Class 3 permit modification.

These documents were updated to include proposed permit language to describe the liners:

- Appendix 4A1, "Phase 1 Critical Systems Design Report."
- Appendix 4A3, "Critical Systems Design Drawings."
- Appendix 4D, "Construction Specifications (C-1), RPP-18489, Rev. 1."

The following documents will be provided with the draft permit as supplemental information to support public review and comment and will be placed in the Administrative Record:

- *Integrated Disposal Facility Action Leakage Rate for Leachate Storage Tanks* (IDF-00015, Rev. 0) (Reference 1)
- *Independent Qualified Registered Professional Engineer Installation Assessment Report for Integrated Disposal Facility (IDF) Leachate Transfer Pipeline* (REG-1280, Rev. 0) (Reference 5)
- *IQRPE Design Assessment Report for the IDF Leachate Tank Domes* (REG-1252, Rev. 0) (Reference 5)
- *Independent Qualified Registered Professional Engineer Design Assessment Report for Integrated Disposal Facility (IDF) Leachate Tank Liner Replacement* (REG-1298, Rev. 0) (Reference 6)
- *Independent Qualified Registered Professional Engineer Design Assessment Report for Integrated Disposal Facility (IDF) Leachate Transfer Pipeline* (REG-1302, Rev. 0) (Reference 8)

The four IQRPE reports listed above were not included in the original Class 3 permit modification request. However, Ecology determined they should be included as supporting information for public review for this permit modification. In addition, Ecology added references to these reports in the list of applicable IQRPE reports for the LCS in Section 4.3.2 (Design & Installation Requirements) in Chapter 4.0.

Ecology issued a *Response to Comments* document from the public comment period. Ecology's *Response to Comments* document (Ecology Publication 22-05-024) is on Ecology's publication website at <https://apps.ecology.wa.gov/publications/summarypages/2205024.html>.

WAC 173-303-840(3)(d) requires at least a 45-day public comment period for a draft permit. Ecology will hold a public comment period from December 5, 2022, through January 20, 2023. This comment period initiates the second portion of the Class 3 Permit Modification. A public hearing is not scheduled, but Ecology will consider holding one if there is enough interest.

The proposed draft permit modification is available on Ecology's website at <https://ecology.wa.gov/Waste-Toxics/Nuclear-waste/Public-comment-periods>. The files will be removed from the website following the closure of the public comment period.

A copy of the proposed permit modification is available at the Hanford Public Information Repositories in Richland, Spokane, and Seattle, Washington, as well as Portland, Oregon. A copy of the proposed permit modification is also available at the locations listed below:

Department of Ecology
Nuclear Waste Program
3100 Port of Benton Boulevard
Richland, Washington 99354

United States Department of Energy
Administrative Record
2440 Stevens Center Place
Richland, Washington 99354

Individuals can request copies on DVD, hard copy, or request to view documents in Ecology's Resource Center. Please contact Ecology's Resource Center at hanford@ecy.wa.gov or (509) 372-7950.

If there are any questions, please contact Naoko Schiffern, Lead Permit Writer, at (509) 380-1993 or naoko.schiffern@ecy.wa.gov, or Dan McDonald, Project Manager, at (509) 942-4972 or dan.mcdonald@ecy.wa.gov.

Sincerely,



Stephanie Schleif
Deputy Program Manager
Nuclear Waste Program

ns/mo
Enclosure

cc: See page 6

References:

1. Letter 21-ECD-001573, received May 19, 2021, "Submittal of Class 3 Permit Modification Request to Incorporate the Leachate Collection System as a Dangerous Waste Management Unit to the Hanford Facility Resource Conservation and Recovery Act Permit for the Integrated Disposal Facility"
2. Letter 21-NWP-110, dated July 27, 2021, "Letter of Incompleteness Determination for the United States Department of Energy's Proposed Class 3 Permit Modification, C3-IDF-2021-01 for the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit Group 11, Integrated Disposal Facility (IDF Permit), WA7890008967"
3. Letter 21-ECD-002951, received October 1, 2021, "Submittal of the Supplemental Information for the Integrated Disposal Facility Operating Unit Group Leachate Collection System Permit Modification Request Completeness Determination"
4. Letter 21-NWP-199, dated December 1, 2021, "Completeness Determination and Technical Review of the United States Department of Energy's Proposed Class 3 Permit Modification, C3-IDF-2021-01, for the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit Group 11, Integrated Disposal Facility [IDF Permit], WA7890008967"
5. Letter 22-ECD-001379, received June 30, 2022, "Response to Technical Deficiencies to Incorporate the Leachate Collection System as Dangerous Waste Management Units to the Hanford Facility Resource Conservation and Recovery Act Permit for the Integrated Disposal Facility Operating Unit Group 11"
6. Letter 22-ECD-002029, received July 25, 2022, "Submittal for Temporary Authorization Request to Install the Upgraded Liner System and Provide Supplemental Information for the Integrated Disposal Facility Leachate Collection System Class 3 Permit Modification Request for the Integrated Disposal Facility, Operating Unit Group 11"
7. Letter 22-NWP-121, dated August 4, 2022, "Response to Submittal for Temporary Authorization Request to Install the Upgraded Liner System and Provide Supplemental Information for the Integrated Disposal Facility Leachate Collection System Class 3 Permit Modification Request for the Integrated Disposal Facility, Operating Unit Group 11"
8. Letter 21-ECD-003758, received December 14, 2021, "Response to Project Activities to Support Operational Readiness of the Integrated Disposal Facility"
9. Letter 22-ECD-002246, received August 4, 2022, "Submittal of the Independent Qualified Registered Professional Engineer Design Assessment Report for the Integrated Disposal Facility Leachate Transfer Pipeline as Supplemental Information for the Integrated Disposal Facility Leachate Collection System Class 3 Permit Modification Request, PCN-C3-IDF-2021-01"

cc electronic:

David Einan, EPA
Tim Hamlin, EPA
Michelle Mullin, EPA
Duane Carter, USDOE
Tony McKarns, USDOE
Paul Pak, USDOE
Gary Pyles, USDOE
Brian Stetter, USDOE
Brian Stickney, USDOE
Glyn Trenchard, USDOE
Bryan Trimberger, USDOE
Sheila Davis, BNI
Brittany Sparks, BNI
Robert Bullock, CPCCo
Erika Garcia, CPCCo
Marc Jewett, CPCCo
Aaron Marshall, CPCCo
Eric Van Mason, HLMI
Curt Clement, HMIS
Jon Perry, HMIS
Darci Teel, HMIS
Michael Stephenson, PNNL
Roger Szelmecka, WRPS
Mason Murphy, CTUIR
Jack Bell, NPT
Alyssa Buck, Wanapum
Laurene Contreras, YN
ERWM Staff, YN
Janice Catrell, HAB
David Reeploeg, Hanford Communities
Max Woods, ODOE
Robin Priddy, BCAA
Mathew Drumheller, USACE
Trevor Fox, USFW
Mike Livingston, WDFW
Lauren Jenks, WDOH
John Martell, WDOH
Erin Coyle, WSDA

Allyson Brooks, WSDAHP
Cindy Preston, WSDNR
Jennifer Cantu, Ecology
Annette Carlson, Ecology
Nitya Chandran, Ecology
Suzanne Dahl, Ecology
Jay Decker, Ecology
Tracy Gao, Ecology
Amie Green, Ecology
Edward Holbrook, Ecology
Michelle Jones, Ecology
Yoana Lucatero, Ecology
Dan McDonald, Ecology
Nina Menard, Ecology
John Price, Ecology
Naoko Schiffern, Ecology
Stephanie Schleif, Ecology
Stacie Sexton, Ecology
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